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Title: REACTIVE INK PRINTING PROCESS ;

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Applicant(s): SAWGRASS SYSTEMS INC (US) ;

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ABSTRACT:

A method of printing an ink or meltable ink layer which comprises dyes or pigments or other colorants. The ink or ink melt layer comprises compounds with functional groups capable of reacting with active hydrogen, and compounds with functional groups containing active hydrogen, or functional groups capable of conversion to active hydrogen containing groups. An image is printed (6) onto a substrate (9), at a relatively low temperature, so that the ink is not activated during the process of printing (6) on the medium (9). The image is subsequently transferred or permanently fixed on the final substrate (8) by the application of heat and pressure (10), which activates the ink, and bonds the colorant to the final substrate (8). The reactive compounds may be blocked with blocking agents which are removed by the application of heat or other energy during activation of the ink.



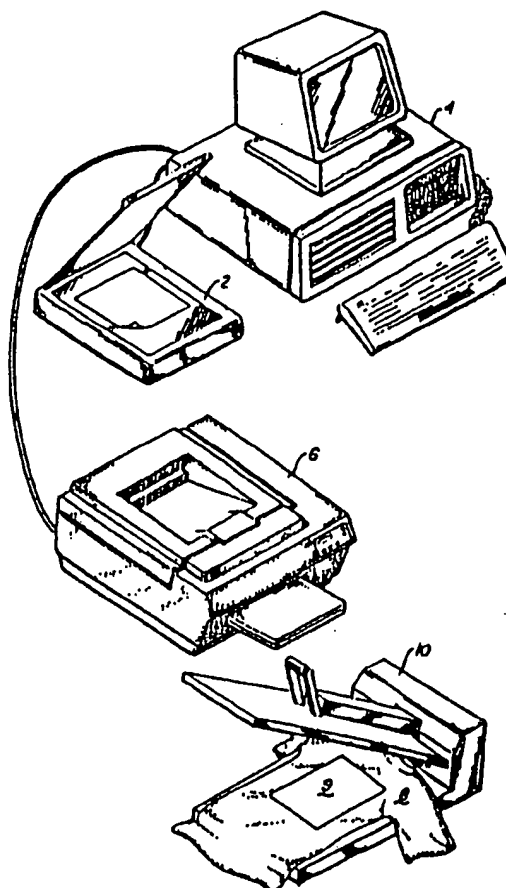
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(51) International Patent Classification 6 : B32B 3/00, 31/00, B44C 1/165	A1	(11) International Publication Number: WO 99/56948 (43) International Publication Date: 11 November 1999 (11.11.99)
<p>(21) International Application Number: PCT/US99/09387</p> <p>(22) International Filing Date: 30 April 1999 (30.04.99)</p> <p>(30) Priority Data: 09/073,963 6 May 1998 (06.05.98) US</p> <p>(71) Applicant: SAWGRASS SYSTEMS, INC. [US/US]; 2233 Highway 17 North, Mt. Pleasant, SC 29464 (US).</p> <p>(72) Inventors: THOMPSON, Kimberlee; Apartment 23D, 1054 Anna Knapp Boulevard, Mt. Pleasant, SC 29464 (US). WAGNER, Barbara; 1477 Oaklanding Road, Mt. Pleasant, SC 29464 (US). XU, Ming; 2808 Gaston Gate, Mt. Pleasant, SC 29464 (US).</p> <p>(74) Agent: KILLOUGH, Billy, C.; Barnwell Whaley Patterson & Helms, LLC, Suite 300, 134 Meeting Street, Charleston, SC 29401 (US).</p>	<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p>Published With international search report. With amended claims.</p>	

(54) Title: REACTIVE INK PRINTING PROCESS

(57) Abstract

A method of printing an ink or meltable ink layer which comprises dyes or pigments or other colorants. The ink or ink melt layer comprises compounds with functional groups capable of reacting with active hydrogen, and compounds with functional groups containing active hydrogen, or functional groups capable of conversion to active hydrogen containing groups. An image is printed (6) onto a substrate (9), at a relatively low temperature, so that the ink is not activated during the process of printing (6) on the medium (9). The image is subsequently transferred or permanently fixed on the final substrate (8) by the application of heat and pressure (10), which activates the ink, and bonds the colorant to the final substrate (8). The reactive compounds may be blocked with blocking agents which are removed by the application of heat or other energy during activation of the ink.



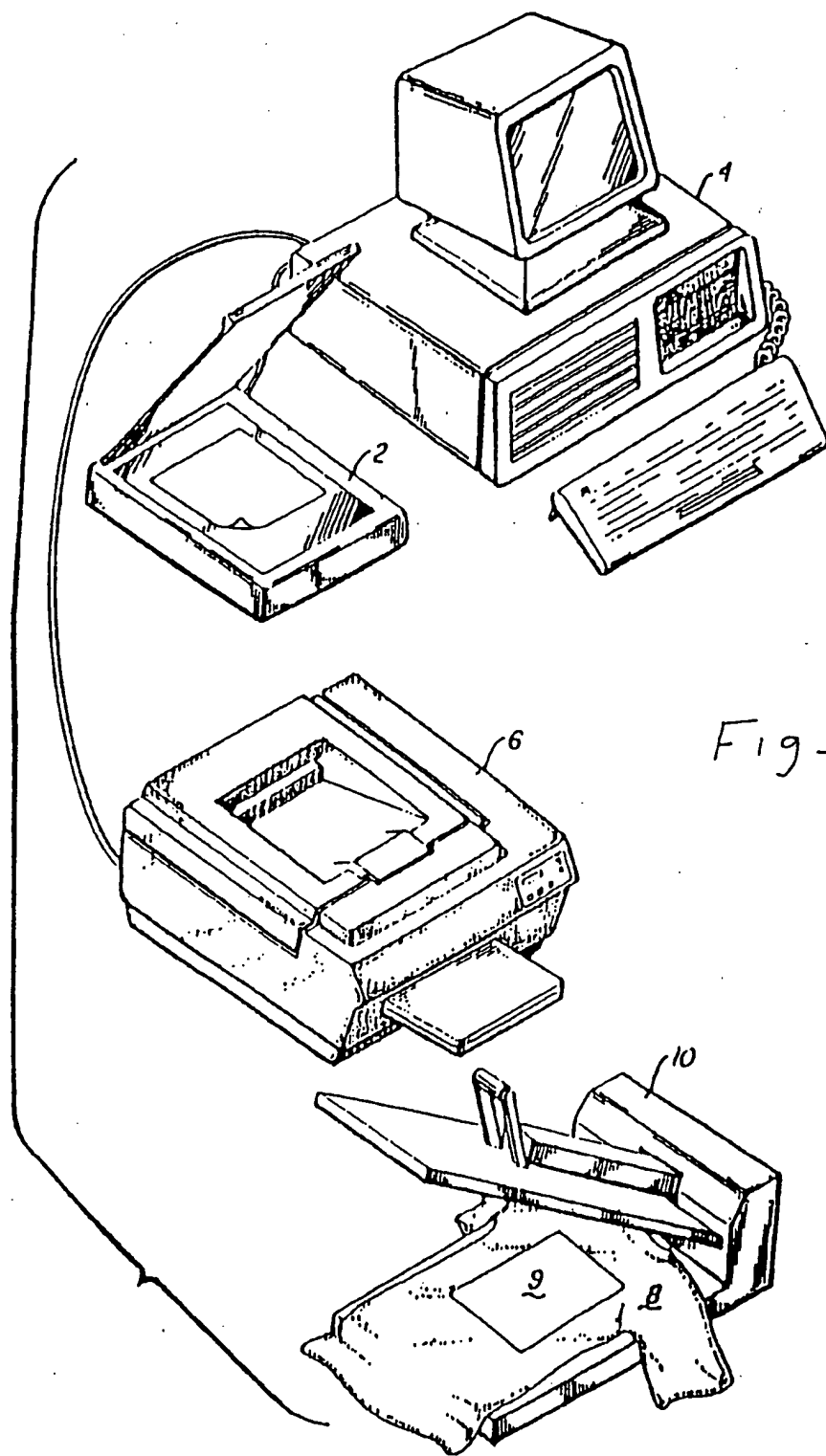


Fig 1

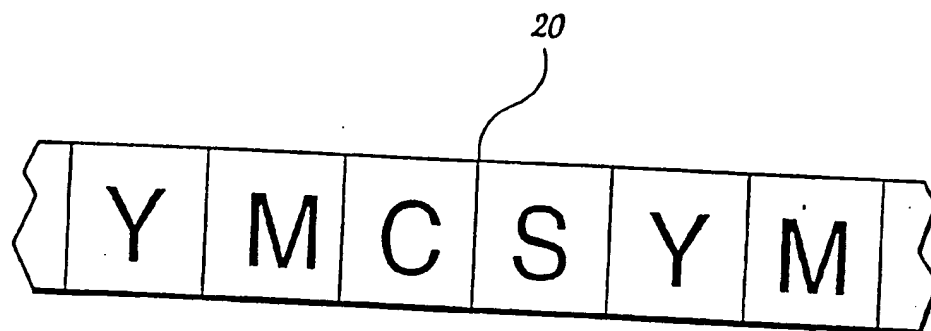


Fig. 2

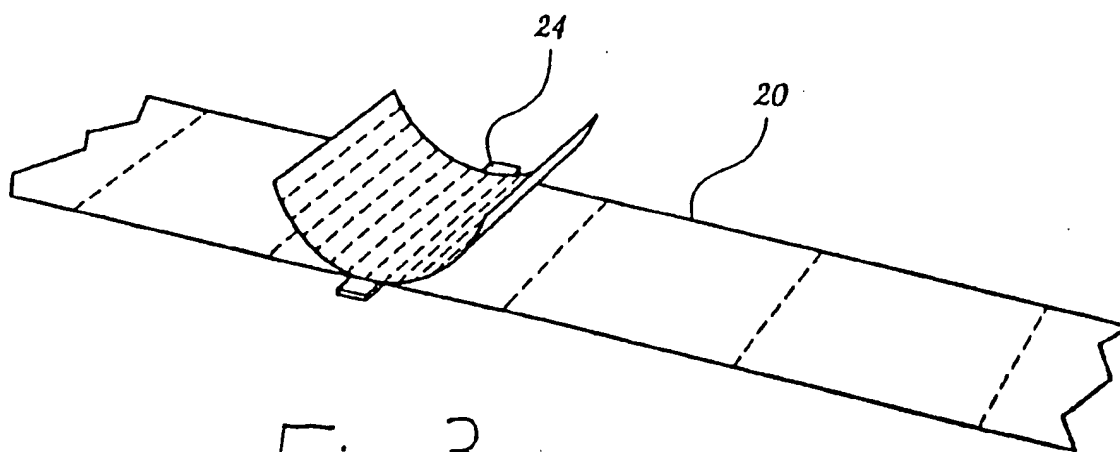


Fig 3